

WHAT IS CLAIMED IS:

- 1 1. For use in a wireless communication system comprising a
- 2 mobile switching center, at least two base stations and at least
- 3 one mobile station, an apparatus for providing mobile station
- 4 registration in a traffic channel, wherein the apparatus comprises:
 - 5 at least one base station that is capable of receiving in a
 - 6 traffic channel at least one mobile station registration message
 - 7 from at least one mobile station; and
 - 8 at least one mobile station that is capable of sending in a
 - 9 traffic channel at least one mobile station registration message to
 - 10 least one base station.

1 2. The apparatus as set forth in Claim 1 wherein:

2 said at least one base station is capable of receiving in a
3 reverse traffic channel a registration message from said at least
4 one mobile station;

5 said at least one base station is capable of causing said
6 mobile switching center to register said at least one mobile
7 station in said wireless communication system; and

8 said at least one base station is capable of sending a
9 registration accepted order to said at least one mobile station in
10 a forward traffic channel.

1 3. The apparatus as set forth in Claim 2 wherein said mobile
2 switching center is capable of causing a registration request
3 message to be sent to said at least one mobile station in a traffic
4 channel.

1 4. The apparatus as set forth in Claim 1 wherein said at
2 least one base station comprises a traffic channel registration
3 controller that is capable of one of: sending mobile station
4 registration messages in a traffic channel to said at least one
5 mobile station and receiving mobile station registration messages
6 in a traffic channel from said at least one mobile station.

1 5. The apparatus as set forth in Claim 4 wherein:

2 said traffic channel registration controller is capable of

3 receiving in a reverse traffic channel a registration request

4 message from said at least one mobile station;

5 said traffic channel registration controller is capable of

6 causing said mobile switching center to register said at least one

7 mobile station in said wireless communication system; and

8 said traffic channel registration controller is capable of

9 sending a registration accepted order to said at least one mobile

10 station in a forward traffic channel.

1 6. The apparatus as set forth in Claim 5 wherein said mobile

2 switching center is capable of sending a registration request

3 message to said traffic channel registration controller for

4 forwarding to said at least one mobile station in a traffic

5 channel.

1 7. The apparatus as set forth in Claim 6 wherein said at

2 least one base station is capable of sending a location update

3 request message to said mobile switching center and is capable of

4 receiving a location update acceptance message from said mobile

5 switching center.

1 8. A wireless communication system comprising:

2 a mobile switching center and a plurality of base stations

3 capable of communicating with a plurality of mobile stations; and

4 an apparatus for providing mobile station registration in a

5 traffic channel, wherein the apparatus comprises:

6 at least one base station of said plurality of base stations

7 that is capable of receiving in a traffic channel at least one

8 mobile station registration message from at least one mobile

9 station of said plurality of mobile stations; and

10 at least one mobile station of said plurality of mobile

11 stations that is capable of sending in a traffic channel at least

12 one mobile station registration message to least one base station

13 of said plurality of base stations.

1 9. The wireless communication system as set forth in Claim 8
2 wherein:

3 said at least one base station is capable of receiving in a
4 reverse traffic channel a registration message from said at least
5 one mobile station;

6 said at least one base station is capable of causing said
7 mobile switching center to register said at least one mobile
8 station in said wireless communication system; and

9 said at least one base station is capable of sending a
10 registration accepted order to said at least one mobile station in
11 a forward traffic channel.

1 10. The wireless communication system as set forth in Claim 9
2 wherein said mobile switching center is capable of causing a
3 registration request message to be sent to said at least one mobile
4 station in a traffic channel.

1 11. The wireless communication system as set forth in Claim 8
2 wherein said at least one base station comprises a traffic channel
3 registration controller that is capable of one of: sending mobile
4 station registration messages in a traffic channel to said at least
5 one mobile station and receiving mobile station registration
6 messages in a traffic channel from said at least one mobile
7 station.

1 12. The wireless communication system as set forth in
2 Claim 11 wherein:

3 said traffic channel registration controller is capable of
4 receiving in a reverse traffic channel a registration request
5 message from said at least one mobile station;

6 said traffic channel registration controller is capable of
7 causing said mobile switching center to register said at least one
8 mobile station in said wireless communication system; and

9 said traffic channel registration controller is capable of
10 sending a registration accepted order to said at least one mobile
11 station in a forward traffic channel.

1 13. The wireless communication system as set forth in
2 Claim 12 wherein said mobile switching center is capable of sending
3 a registration request message to said traffic channel registration
4 controller for forwarding to said at least one mobile station in a
5 traffic channel.

1 14. The wireless communication system as set forth in
2 Claim 13 wherein said at least one base station is capable of
3 sending a location update request message to said mobile switching
4 center and is capable of receiving a location update acceptance
5 message from said mobile switching center.

1 15. For use in a wireless communication system comprising a
2 mobile switching center, at least two base stations and at least
3 one mobile station, a method for registering at least one mobile
4 station in said wireless communication system, wherein the method
5 comprises the steps of:

6 sending from said at least one mobile station at least one
7 mobile station registration message in a traffic channel to at
8 least one base station;

9 receiving in said at least one base station said at least one
10 mobile station registration message sent in a traffic channel from
11 said at least one mobile station; and

12 registering said at least one mobile station in said mobile
13 switching center of said wireless communication system.

1 16. The method as set forth in Claim 15 further comprising
2 the steps of:

3 sending a registration message on a reverse traffic channel
4 from said at least one mobile station to said at least one base
5 station; and

6 sending a registration accepted order message on a forward
7 traffic channel from said at least one base station to said at
8 least one mobile station.

1 17. The method as set forth in Claim 16 further comprising
2 the steps of:

3 sending a location update request message from said at least
4 one base station to said mobile switching center after said at
5 least one base station receives said registration request message
6 from said at least one mobile station; and

7 receiving in said at least one base station a location update
8 acceptance message from said mobile switching center before said at
9 least one base station sends a registration accepted order message
10 to said at least one mobile station.

1 18. The method as set forth in Claim 15 further comprising
2 the steps of:

3 sending a registration request message from a mobile switching
4 center to said at least one base station; and

5 sending said registration request message from said at least
6 one base station in a forward traffic channel to said at least one
7 mobile station.

1 19. The method as set forth in Claim 18 further comprising
2 the steps of:

3 in response to receiving said registration request message in
4 a forward traffic channel from said at least one base station,
5 sending a registration message in a reverse traffic channel from
6 said at least one mobile station to said at least one base station;
7 sending a location update request message from said at least
8 one base station to said mobile switching center;
9 receiving in said at least one base station a location update
10 acceptance message from said mobile switching center; and
11 sending a registration accepted order message in a forward
12 traffic channel from said at least one base station to said at
13 least one mobile station.

1 20. The method as set forth in Claim 15 further comprising
2 the steps of:

3 sending from said at least one mobile station at least one
4 mobile station registration message in a traffic channel to a
5 traffic channel registration controller in at least one base
6 station;

7 receiving in said traffic channel registration controller in
8 said at least one base station said at least one mobile station
9 registration message sent in a traffic channel from said at least
10 one mobile station; and

11 using said traffic channel registration controller to cause
12 said mobile switching center to register said at least one mobile
13 station in said wireless communication system.